

04/10/14 Agenda

- Review Quiz
- Polynomials - day 14
 - Factoring Trinomials where $A > 1$

Homework

- Worksheet 8 - Factoring ($a \neq 1$)

$$7.) \quad 3p^2 - 7p - 6 = (3p)(p)$$

$$a = 3$$

$$ac = 3 \cdot -6 = -18$$

$$-7$$

$$b = -7$$

FACTORS OF
-18

THAT ADD
TO -7

$$-2, 9$$

$$= +7$$

$$c = -6$$

$$(2, -9)$$

$$= -7$$

$$7.) \quad 3p^2 - 7p - 6$$

$$3p^2 + 2p - 9p - 6$$

$$(3p + 2)(p - 3)$$

	$3p + 2$
p	$3p^2 + 2p$
-3	$-9p - 6$

$$3x^2 + 20x + 12$$

$$(3x+2)(x+6)$$

METHOD #1 - BOX METHOD

$$3x^2 + 20x + 12$$

$$3x^2 + 2x + 18x + 12$$

$$a=3$$

$$b=20$$

$$c=12$$

$$3 \cdot 12 = 36$$

FACTORS OF 36

1, 36

2, 18

$$20$$

THAT ADD TO 20

$$= 37$$

$$= 20$$

$$3x + 2$$

$$(3x+2)(x+6)$$

	$3x^2$	$+2x$
$+6$	$+18x$	$+12$

$$3x^2 + 20x + 12$$

$$(3x+2)(x+6)$$

METHOD #2 - FACTOR BY GROUPING

$$3x^2 + 20x + 12$$

$$a=3$$

$$b=20$$

$$c=12$$

$$\begin{array}{r|l} 3 \cdot 12 = 36 & 20 \\ \text{FACTORS OF } 36 & \text{THAT ADD TO } 20 \end{array}$$

$$1, 36 \quad = 37$$

$$2, 18 \quad = 20$$

$$(3x^2 + 2x) + (18x + 12)$$

GROUP INTO 2 SETS OF 2

$$[x(3x+2) + 6(3x+2)]$$

PULL OUT COMMON FACTORS

$$(3x+2)(x+6)$$

$$(3x+2)(x+6)$$

$$3x^2 + 20x + 12$$

$$(3x+2)(x+6)$$

METHOD #3

GCF SHORTCUT

$$a=3$$

$$b=20$$

$$c=12$$

$$3 \cdot 12 = 36$$

FACTORS OF
36

20
THAT ADD
TO
20

$$1, 36 \quad = 37$$

$$2, 18 \quad = 20$$

$$(3x+2)(3x+18)$$

3

$$(3x+2)(x+6)$$

8.) $2x^2 - 7x + 5$

$a=2$

$b=-7$

$c=5$

$2x^2 - 2x - 5x + 5$

	x	-1
$2x$	$2x^2$	$-2x$
-5	$-5x$	$+5$

$(2x-5)(x-1)$

ac	$2 \cdot 5$	-7
	10	
FACTORS OF 10		
	$2, 5$	$+7$
	$-2, -5$	-7

9.) $3m^2 - 16m + 5$

$a = 3$
 $b = -16$
 $c = 5$

$3 \cdot 5 = 15$ -16

FACTORS OF 15

9.) $3m^2 - 16m + 5$

1, 15
 -1, -15

$3m^2 - 1m - 15m + 5$

$(3m - 1)(m - 5)$

$3m^2$	$-1m$
$-15m$	$+5$